

**UNITED STATES DISTRICT COURT
DISTRICT OF NEW JERSEY**

NOT FOR PUBLICATION

DANIELLA ARAOZ, et al.,	:	
	:	
Plaintiffs	:	
	:	
v.	:	Civil Action No. 06-2149(FSH)
	:	
UNITED STATES OF AMERICA, et al.	:	FINDINGS OF FACT &
	:	CONCLUSIONS OF LAW
Defendants	:	
	:	

SHWARTZ, Magistrate Judge

INTRODUCTION

Plaintiff Danielle Araoz brought this action against the United States of America pursuant to the Federal Tort Claims Act, 28 U.S.C. §§ 2671-80 (“FTCA”), for damages for personal injuries she claims that its doctor caused during her delivery on April 6, 2003.

The parties have consented to the jurisdiction of the United States Magistrate Judge to resolve the case. See 28 U.S.C. § 639(c); Docket No. 43. A five-day bench trial was commenced on February 25, 2008 and concluded on February 29, 2008. During the trial, the parties presented testimony and exhibits and had a full opportunity to examine and cross-examine witnesses¹ and present their arguments. Based upon the trial record and the stipulations of the

¹The Court heard testimony from the following individuals:

<u>Witness</u>	<u>Relationship to the Parties</u>
Ruben Araoz	Plaintiff's father
Lilian Araoz	Plaintiff's mother
Dr. Arnold Sperling	Plaintiff's obstetrical expert

parties contained in the Final Pretrial Order, dated October 23, 2007 [Docket No. 41], the Court makes the following findings of fact and conclusions of law pursuant to Fed. R. Civ. P. 52.

FINDINGS OF FACT

Delivery

Danielle Arraoz was born on April 6, 2003 at Palisades Medical Center. (Stip. Fact. No. 1). During her mother's uncomplicated pregnancy, her mother had received prenatal care at the North Hudson Community Action Corporation, a federally funded facility. (Stip. Fact Nos. 12-15). On the morning of April 5, 2003, her mother visited Palisades Medical Center with signs of labor. (Plaintiff Exhibit ["Pl. Ex."]1). Dr. Kyreakakis, who was serving at the hospital in his capacity as an attending obstetrician for North Hudson Community Action Corporation, (Stip. Fact Nos. 5 and 19), performed a sterile vaginal examination, determined that plaintiff's mother was 2-3 centimeters dilated, 75% efaced, and at -3 vertex,² and that her labor had not progressed sufficiently to warrant admission to the hospital. (Stip. Fact Nos. 15-16) As a result, she was sent home. (Testimony of Ruben Araoz, dated February 25, 2008, at 4:17-19). Her mother returned to Palisades Medical Center during the afternoon of April 5, 2003 and she was admitted. (Stip. Fact No. 17). Dr. Kyreakakis examined her upon admission as well on April 6, 2003 at 10:10 a.m., when he noted that she was 5-6 centimeters dilated, 90% efaced, and -1 station.

Dr. Daniel Adler	Plaintiff's pediatric neurological expert
Dr. George Kryeakakis	Doctor who delivered plaintiff
Dr. Anthony Quatrell	Defendant's obstetrical expert
Dr. Walter Molofsky	Defendant's pediatric neurological expert

²Vertex or station refers to the position of the top of the baby's head from the point of exit, with -3 reflecting that the top of the head has entered the pelvis and +1 reflecting the point at which the scalp is visible in the vaginal canal. Tr. Vol. II 30:17-21.

(Stip. Fact No. 22). An epidural was administered, (Stip. Fact No. 21), and at noon, he ordered Pitocin to augment the labor. (Stip. Fact No. 23; Pl. Ex. 1). Dr. Kriyakakis also performed a right mediolateral episiotomy. (Stip. Fact No. 27). By approximately 3:30 p.m, plaintiff's mother was in the second stage of labor,³ and thus was fully dilated and pushing with contractions. (Stip. Fact No. 24). Both her first and second stages of labor were of normal length.⁴ (Stip. Fact Nos. 25-26; Tr. Vol. III 44:3-7).⁵

Dr. Kriyakakis testified that he has no recollection of this delivery, (Tr. Vol. III at 34:2-25), but he stated that he is normally called into the delivery room after the mother is fully dilated and his normal practice is to have each of the mother's legs and abdomen draped with sheets, (Tr. Vol. II 37:19-20; Tr. Vol. III 86:20-24), the mother's legs are placed in stirrups, (Tr. Vol. II 36:3-5), he sits between the mother's legs on a stool with rollers, (Tr. Vol. III 20:23), and his instrument tray is to his right. (Tr. Vol. III 52:14-16). From this seated position, the mother's vaginal opening is slightly below his neck and it provides him ability to see into the area where the baby would arrive. (Tr. Vol. II 36:13-23). He testified that family members generally do not

³The second stage of labor is defined as the period from the point the cervix is completely dilated until the baby is delivered. (Testimony of Dr. Sperling). During this period, the uterus, which is primarily smooth muscle mass, contracts as a result of the release of hormones. The contractions squeeze from the top or fundus of the uterus toward the vaginal canal to force the baby out of the mother. *Id.* According to Dr. Quatrell, the uterus is the strongest muscle in the body. (Testimony of Dr. Quatrell).

⁴A precipitous second stage of labor occurs if the baby travels abnormally fast after the second stage starts and delivers quickly. (Tr. Vol. III 43:14-22).

⁵The transcript citations listed as "Tr. Vol." refer to the trial testimony of Dr. Kriyakakis, dated February 27, 2008. Three different court reporters transcribed the testimony and therefore, his testimony spans three volumes herein referred to as Tr. Vol. I, Tr. Vol. II, and Tr. Vol. III, respectively.

wear sterile gowns and that he does not allow anyone into the sterile area, which is understood to be the area where the mother is draped. (Tr. Vol. II 38:7-22).

According to Dr. Kyreakakis' delivery notes, after the plaintiff's head was delivered, he confronted shoulder dystocia, which he described as difficulty delivering a baby vaginally because the anterior shoulder is stuck behind the mother's symphysis pubis.⁶ (Pl. Ex. 2; Tr. Vol III 34:25-35; 16:18-24). The impaction of the shoulders interrupts the birth and prevents the torso from being delivered. (Testimony of Dr. Sperling); see also Campbell, 2005 WL 1387652 at 4; O.B., 2005 WL 2838191 * 1 (observing the "shoulder dystocia occurs when, during delivery, the baby's shoulder becomes stuck against the mother's pubic bone, which, of course, impedes delivery"). Dr. Kyreakakis testified that, to determine if shoulder dystocia has occurred, he uses gentle pressure to move the baby's head "one degree or so" in a downward direction, that is from ear toward shoulder, and if there is no movement of the shoulders through the birth canal, then he will diagnose a shoulder dystocia and advise the nurses. (Tr. Vol II 35:8-12, 42:4-21; Tr. Vol. III 6:10-20, 19:7-19).

Shoulder dystocia is unpredictable and viewed as an obstetrical emergency because after five to seven minutes, the baby could lose blood flow and oxygen. (Testimony of Dr. Sperling and Dr. Quatrell; Tr. Vol. II, 39:7-11; Tr. Vol. III 6:10-20). As a result, all obstetricians need to be prepared to respond through the application of a variety of techniques performed to change the distance between the shoulders or to change their geometric relationship to the birth canal.

⁶Dr. Quatrell testified when the baby is in the process of being delivered, the baby descends down the birth canal, internally rotates so that the ischial spine does not preclude the head from passing. As the head passes the ischial spine, the shoulder rotates a bit past the center of the pelvis. Shoulder dystocia occurs at the point of the external rotation and the shoulders get stuck behind the symphysis pubis. (Testimony of Dr. Quatrell).

(Testimony of Dr. Sperling). One technique is known as the McRoberts maneuver,⁷ where the mothers knees are flexed, pushed toward her head, and spread to change the anatomy of the posterior outlet. O.B., 2005 WL 2838191, at 1 (noting that the “McRoberts” position, which involves pushing the mother’s legs, “knees bent, up and out, which has the effect of allowing the pelvis to be as open as possible during delivery”). To assist the mother into this position, Dr. Kyreakakis leans forward, removes the mother’s legs from the stirrups, uses both hands to flex her legs toward her head, and has a nurse hold each of the bent legs back. (Stip. Fact No. 28-29; Tr. Vol II 46:18-35, 51:15-23; Tr. Vol. III 51:2-3, 101:2-5). Dr. Kyreakakis testified that he typically would then apply “gentle traction”⁸ to the baby’s head to see if application of the McRoberts’ maneuver relieved the impaction. (Tr. Vol. III 6:11-22). If it does not, then he would apply subrapubic pressure, which involves the placement of the doctor’s hands above the pubic bone and pressure is applied in a downward direction toward the mother’s rectum with the goal of pushing the baby’s shoulder down to allow it to slide under the pubic bone. (Testimony of Dr. Sperling; Tr. Vol. III 7:1-10).

⁷Other techniques that are used are known as the Woods, Ruben or reverse Woods, posterior arm delivery, and Zavenilli maneuvers. In Woods, the doctor reaches into the vaginal canal and puts his hand behind the shoulder and turns the baby 180 degree in a corkscrew to release the shoulder. Zavenilli involves placing the baby’s head back into the uterus and performing a cesarean section. The posterior arm delivery involves reaching in the vaginal canal and pulling the baby’s posterior arm across the chest and delivering the arm. Velazquez v. Jimenez, 336 N.J. Super. 10, 20 (App. Div. 2000). Each appear to involve placement of the doctor’s hands substantially or fully into the vaginal canal. None of those techniques were used in this case.

⁸The medical records do not have any description concerning the type or amount of traction and the first comment Dr. Kyreakakis made that the amount was “gentle” was at his deposition. (Tr. Vol. III 38:4-7). Dr. Quatrell testified that he only saw traction described in medical records as being “excessive” was once in his career.

With respect to the application of subprapubic pressure, Dr. Kyreakakis testified that he normally stands up from his stool, remains between the mother's legs, places his left hand flat above the pubic symphysis and his right fist on top of the back of his left hand and presses down above the symphysis pubis. (Tr. Vol. 47:10-19, 48:1-8; Tr. Vol. III 27:20-28:1; Stip. Fact Nos. 30-31). He testified that when his hands are in this position that he is able to feel the baby's anterior shoulder.⁹ He stated that he prefers to personally apply the pressure so that he can visualize the position of the baby's shoulder in relation to the mother's pubic bone. (Tr. Vol. II 47:22-23, 49:10-14, 52:22-23; Tr. Vol. III 6:10-25). He further testified that when he applies the pressure, he is standing inches from the baby's head, which is tilted upward and that the soft tissue of the mother's vaginal wall and perineum stops the head from moving. (Tr. Vol. II 40:4-21; Tr. Vol. III 85:12-25, 92:21-25, 93:6-23, 95:11-22; see also Testimony of Dr. Quatrell (testifying that when the baby's head is delivered, it rests on the buttocks)).

Although Dr. Kyreakakis encourages a mother not to push after diagnosing shoulder dystocia and while he applies the techniques, the plaintiff's mother's labor and contractions continue while these techniques were applied. (Tr. Vol. III 41:3-42:13). Thus, the natural forces of labor and the maternal force of pushing¹⁰ continues while the shoulders are impacted. (Tr. Vol. III 26:12-25, 51:22-52:2, 84-2:3). According to the medical records, the plaintiff's mother had moderate contractions, received Petocin,¹¹ (Pl. Ex. 2; Tr. Vol. III 40:7-15), pushed for one

⁹ The anterior shoulder is the shoulder closest to the mother's abdomen and the posterior shoulder is the shoulder closest to the mother's backside.

¹⁰When the mother pushes, the epidural, which is given for pain, is turned off. (Tr. Vol. III 39:15-17). Petocin is given because the epidural weakens contractions. (Tr. Vol. III 39:4-9).

¹¹The plaintiff's mother did not have nonstop contractions. (Tr. Vol. III 40:19-24).

hour and nine minutes, and the plaintiff was fully delivered at 4:39 p.m. (Pl. Ex. 2).

Understandably, the plaintiff's mother has no clear recollection of the actions in which the doctor engaged or anyone touching her abdomen, but she did recall being given a towel, her legs being placed in the stirrups, her knees being bent with a pillow behind her back, occasionally having her bent knees pushed toward her chest, pushing, and the doctor stating "okay, relax, relax." (Testimony of Lilian Araoz). She also testified that Ruben Araoz was on her right side and that she sometimes held his hand and sometimes threw his hand away from her. The plaintiff's father confirmed that he was on the mother's right side. (Testimony of Ruben Araoz at 7:18-20). He also testified that when the plaintiff's head was delivered, she was on her left side facing him with her left ear facing the floor. (*Id.* at 8:2-7). He stated that after her head was delivered, he saw the doctor place his hands around the plaintiff's ears and on her head and then quickly move her head up and down, a few times, (*id.* at 8:23-9:15), as if he was attempting to tilt her head from one shoulder to the other. He testified that he could not state the amount of force used, (*id.* at 9:21-25). and that he was focused on the baby's face and did not see any expressions on the doctor's face. (*Id.* at 10:2-5). He did not know the amount of time that had passed from the time he saw the plaintiff's head until she was fully delivered.¹² (*Id.* at 42:4-6).

¹²On redirect examination, defense asked plaintiff's father a question that included a fact concerning the timing of the observation, but his testimony did not support the specific fact and the answer did not confirm it:

Q: . . . How is it that you remember the doctor pulling down and up on your daughter's head when it had just delivered but you don't remember other details about where [Aunt] Daisy was or other matters?

A: Because my attention was on my daughter, specifically on my daughter.

While he testified that sometime before plaintiff was fully delivered, the doctor changed his position and had his back to the plaintiff's father, but he could not see what he was doing. (Testimony of Ruben Araoz at 46:6-24). The plaintiff's father, however, did not testify that he saw the doctor stand at anytime during the delivery. Moreover, while he recalled seeing his wife's legs in the "leg holders," he does not remember if anyone changed the position of her legs, including whether or not the nurses held her legs back, (*id.* at 12:5-9, 36:24-37:10), or if any one touched his wife's abdomen. (*Id.* at 11:21-12:2, 41:20-25). Thus, the plaintiff's father had no ability to testify about whether or not either McRoberts or suprapubic pressure were performed after the should dystocia occurred and hence there is nothing in the record to identify when he saw the doctor move the plaintiff's head in relation to these maneuvers or her full delivery.

Both after he applies the McRoberts maneuver and after he applies suprapubic pressure, Dr. Kyreakakis said that he normally uses gentle downward traction. (Tr. Vol. III 6:17-7:10, 27:10-14, 52:24-53:11; 98:1-20). Once the shoulder is released, then he also would use upward traction to deliver the posterior shoulder. (Tr. Vol. II 50:2-7; Tr. Vol. III 13:6-9). He testified that before the shoulder is released, however, he would not move the head down and up multiple times because going upward would not release the anterior shoulder. (Tr. Vol. III 13:13-14:18). He testified that he is aware that excessive traction should not be used and that he normally uses no more than five pounds of force and that he obtained this measurement based upon his pulling on a scale at the hospital that is used to weigh babies and recording the amount of pounds

Testimony of Ruben Araoz at 72:24-73:4 (emphasis added). The response explains why the witness did not remember details probed on cross-examination but does not confirm the timing that counsel inserted into the question.

generated by his pull. (Tr. Vol. II 45:16-25; Tr. Vol. III 87:16-25). He further testified that he does not usually move the head more than three or four degrees “off the axis.” (Tr. Vol. III 80:17-20). The axis is described as the imaginary line that runs vertically from the spine through the top of the head.

The parties agree that the application of gentle traction is within the standard of care obstetricians use when confronted with shoulder dystocia. This technique requires the doctor to place both hands on the baby’s head and gently and slowly pull in an effort to guide the baby out in a forward motion toward the doctor. (Testimony of Dr. Sperling). Dr. Sperling described the amount of traction as being akin to the grip using one’s finger tips or the force needed for one with soapy hands to attempt to turn a door knob. (Testimony of Dr. Sperling). Dr. Quartrell stated that there is no way to measure the amount of traction, but he described it as the amount of force that is akin to what is needed when one places his or her hand on a door knob to see if the door is locked, and is more than the force one uses when peeling a banana. (Testimony of Dr. Quatrell). He further testified that it is the amount of force one would use with his or her arms alone while one has three fingers on the baby’s head. If the baby’s head is still in the vaginal canal, then the fingers may go around the baby’s jaw line. He further testified that the amount of force that can be applied is limited by the baby’s immobile body (due to the impaction), which operates as a pressure against which the traction is applied. Dr. Kyreakakis testified that the amount of traction he usually applies is akin to the pressure used to peel a banana after the top of the banana is opened and one can begin to peel it. (Tr. Vol. III 99:16-100:17).

Dr. Sperling also demonstrated the technique using the doll and pelvis exemplar and it appeared that the amount of force that would be acceptable depended upon how far into the

mother's vaginal canal his hands were placed. (Testimony of Dr. Sperling). If the hands were farther in the canal, then more traction could be used.

Diagnosis of Injury

Based upon the Apgar scores and number of techniques used, Dr. Kryeakakis testified that the amount of time between the diagnosis of the shoulder dystocia and delivery was under two minutes. (Tr. Vol. III 4:18-25, 6:13-15, 7:1-10). At the time of her vaginal delivery, plaintiff weighed 10 pounds, 2 ounces, her Apgar scores were 9 and 9, she exhibited no signs of bruising or fractures,¹³ and her right arm was flaccid. (Tr. Vol. III 14:8-21; Pl. Ex. 2; Stip. Facts Nos. 33-34). After she was born, her father observed the doctor pull the plaintiff's arms up in the air. (Testimony of Ruben Araoz at 13:13-24). He said that left arm stay up but right arm fell to its side. He said that the pediatrician arrived and repeated this exercise with the same result. (Id.). A pediatrician examined the plaintiff and found that, from a neurological perspective, she was normal and not susceptible to injury but did sustain a brachial plexus injury.¹⁴ (Stip. Facts Nos. 36-37).

The brachial plexus "is a network of nerves¹⁵ that branch out from the cervical spine and go to different muscles in the upper extremities and shoulders." O.B., 2005 WL 2838191, at *4 n.10. These nerves control the movement and sensation of the arms. Nerves have elasticity and,

¹³Dr. Quatrell testified that the presence or absence of bruising or fractures does not indicate whether or not excessive traction occurs. (Testimony of Dr. Quatrell).

¹⁴Dr. Kyreakakis testified that if the baby he delivered had a problem, then his custom would be to speak to the parents, but he has no recollection of whether or not he met with plaintiff's parents. (Tr. Vol. III 56:22-57:9). Plaintiff's parents testified that Dr. Kyreakakis did not speak to them after her delivery. (Testimony of Ruben Araoz at 14:9-25 and Lilian Araoz).

¹⁵The brachial plexus is a group of nerves at C5, C6, C7, C8 and T1.

in an infant, a nerve can be elongated 50% of its normal length and therefore can withstand reasonable amounts of force before tearing. (Testimony of Dr. Adler and Dr. Molofsky). Nerves emanate away from the spine and progressively weave with other nerves to form a cable of intertwining nerves as they progress from the spine to the various parts of the body. (Testimony of Dr. Adler). Because of the cabling, a nerve emanating from C5 and C6 becomes progressively stronger and can withstand greater force as it intertwines and becomes cabled with other nerves, such as when it is further from the spine and closer to the shoulder. For these reasons, Dr. Adler explained that more force would be required to tear the brachial plexus nerves if the force is applied to the shoulder than the force that is applied nearer to the spine. (Testimony of Dr. Adler). Dr. Adler testified that the type of force that can be applied to the shoulder to cause an injury to the brachial plexus includes the force from a car accident, impact during football, or a fall from a height. (Testimony of Dr. Adler). Dr. Adler testified that these nerves can also be torn by excessive lateral traction, that is when the head is moved off axis toward one of the shoulders or where there is excessive prolonged compression over a period of weeks or an abnormality, but neither of these latter two events occurred in this case. (Testimony of Dr. Adler).

Plaintiff suffered tears to the fibers of the C5 and C6 nerves and scar tissue (neuroma) formed around the nerve as part of the repair reaction to the stretching and tearing. (Pl. Ex. 6; Testimony of Dr. Molofsky; see also Testimony of Dr. Adler (noting that plaintiff's surgeon observed C5 and C6 had ruptured and scarring to the scalenus muscle)). This scar tissue caused compression on other nerves, (Testimony of Dr. Molofsky), and when nerves are injured, muscles are also injured. (Testimony of Dr. Adler).

Evidence Concerning Causes of the Injury

As in many medical malpractice cases,¹⁶ this case involved the opinions of competing experts as to the cause of the injury. On plaintiff's behalf, Dr. Sperling testified that the natural forces of labor would be insufficient to cause the type of injury plaintiff suffered. He testified that, until the mid-1990s, the only reported cause of brachial plexus injury was doctors who applied accelerated force that caused the cervical nerve to stretch beyond its ability to repair itself. He further testified that if excessive traction is applied in a fashion that causes the ear to move toward the shoulder and hence being moved off axis, the nerve stretches. He testified that because the baby's head is delivered when the shoulder dystocia occurs, the shoulder is still pressed against the pubis and sacrum, but the head is no longer in the uterus and thus it is not subject to the forces of labor.¹⁷

¹⁶See, e.g., Muniz v. Rovira, 373 F.3d 1, 5 (1st Cir. 2004) (affirming jury verdict for the plaintiff despite contradictory defense expert testimony); Harrison v. U.S., 284 F.3d 293, 295 - 296 (1st Cir. 2002) (reversing the district court's judgment in favor of defendant obstetrician for applying wrong standard in an informal consent case); Ponce v. Ashford Presbyterian Community Hosp., 238 F.3d 20, 22 -23 (1st Cir. 2001)(affirming the decision of the District Court to grant the hospital's motion to set aside verdict against nursing staff for insufficiency of evidence); Sturgis v. Bayside Health Ass'n Chartered, Civ. No.146-2007, 2007 WL 4575594 (Del. Supr. Dec. 26, 2007) (affirming defense verdict); Hunter v. State ex rel. LSU Medical School, 934 So.2d 760, 761 (La. App. 2006)(affirming defense verdict); Burke v. Scaggs, 867 A.2d 213, 220-221 (D.C.2005)(affirming verdict that obstetrician violated the standard of care when delivering a baby even though plaintiff's two experts disagreed as to the standard of care); Rieker v. Kaiser Foundation Hospitals, 194 Or. App. 708, 710 (Or. App. 2004)(affirming defense verdict); Vandestreek v. Hammer, Civ. No. 03-99-355, 2000 WL 963162, *1 (Tex.App. July 13, 2000)(affirming defense verdict); Landau v. Rappaport 306 A.D.2d 446 (N.Y.A.D., 2003)(affirming defense verdict); Knapp v. Northeastern Ohio Obstetricians and Gynecologists, Inc., Civ. No. 2002-P-0005, WL 2003 21688096, *3 -7 (Ohio App. July 21, 2003)(affirming defense verdict); Abbott v. New Rochelle Hospital Medical Center, 529 N.Y.S. 2d 352, 354 (N.Y. App. Div. 1985)(affirming defense verdict).

¹⁷Dr. Sperling did not address the fact that the shoulders are still in the uterus, the uterus is contracting, and the mother is still pushing. Dr. Molofsky acknowledged that when shoulder

Dr. Sperling based his conclusion that natural forces of labor are insufficient to cause the injury based upon a study of 23,273 births at John Hopkins over an eleven and one-half year period.¹⁸ According to both Dr. Sperling and Dr. Adler, in the John Hopkins study, the only babies who sustained a brachial plexus injury also confronted shoulder dystocia. Dr. Sperling stated that if the natural forces of labor could cause the injury, then one would expect that at least one of the remaining 23,000 babies would have sustained a brachial plexus injury without having confronted a shoulder dystocia.¹⁹

Dr. Sperling testified that the literature shows that instrument deliveries (i.e. forceps or vacuums) have shown that force applied axially, that is where the force involves pulling the head straight from the spine, does not cause brachial plexus injury, even when up to 80 pounds of force is applied. (Testimony of Dr. Sperling and Dr. Adler (discussing the Allen 2007 article)²⁰). Dr. Sperling and Dr. Adler both stated that only excessive lateral force on the nerve, which occurs when the ear is moved toward the shoulder, can cause the injury.

The defendant's experts do not dispute that excessive doctor-applied traction can cause a brachial plexus injury but assert that other forces can also cause the injury. Dr. Quatrell and Dr.

dystocia occurs, the head and neck are past the uterus and most of the force is coming from the top of the uterus and hence being applied toward the rear of the baby.

¹⁸Pl. Ex. 50, Gurewitsch, et al., Risk Factors for Brachial Plexus Injury With and Without Shoulder Dystocia, AM. J. OBSTETRICS AND GYNECOLOGY, Vol. 194, 486-492, (2006).

¹⁹Dr. Sperling, a Massachusetts doctor who never confronted a delivery involving shoulder dystocia, and hence never applied any of the maneuvers described on a patient experiencing shoulder dystocia, reached this conclusion without discussing what would be the expected rate of brachial plexus injuries sustained by newborns.

²⁰Pl. Ex. 54, R.H. Allen, et. al., On the Mechanical Aspects of Shoulder Dystocia and Birth Injury, CLINICAL OBSTETRICS AND GYNECOLOGY, Vol. 50, No. 3, 607-623, Sept. 2007

Molofsky noted that the uterine forces of contraction and the forces of the mother's pushing are at work when the shoulder dystocia occurs. Dr. Quatrell testified that he has measured the uterine forces with a uterine catheter and obtained readings of 150 mercury.²¹ Based on this measurement and a study by Gonik,²² Dr. Quatrell opined that the forces of uterine pressure and the mother's bearing down are stronger than the force that a doctor applies when pulling a baby during delivery. (Testimony of Dr. Quatrell).

Dr. Quatrell also testified that literature, such as articles by Jannette, Ouzounian, Sandmire, and Gherman, support his view that the forces of labor and delivery can cause the injury. He testified that in the Jannett article,²³ the authors reviewed 57,597 births and found that 39 of the infants had a brachial plexus injury, but only 17 of the 39 confronted shoulder dystocia and the remaining 22 had no mention of shoulder dystocia in their records and that this group included babies delivered via cesarean section. While the article is silent as to whether or not any of the babies suffered permanent injuries, Dr. Quatrell concluded that the analysis shows that brachial plexus injury can occur in the absence of doctor-applied force.

²¹Dr. Quatrell testified that 33 pounds of pressure is equal to 120 mmhgs. The term "mmHg" is a measure of absolute pressure, measured in millimeters of mercury. It is used in medicine to measure pressure, such as blood pressure or uterine pressure.

²²According to Dr. Quatrell, a study by Bernard Gonik concluded that the maternal forces of labor are four to nine times greater than doctor applied traction.

²³ Deft. Ex. S, Raymond Jennett, M.D. et al, Brachial Plexus Palsy, An Old Problem Revisited, 166 No. 6, Part 1, Am. J. OBSTETRICS & GYNECOLOGY, June 1992, 1673-77; Deft. Ex. T, Raymond Jennett, M.D. et al, Brachial Plexus Palsy, An Old Problem Revisited Again, 176 No. 6, Am. J. OBSTETRICS & GYNECOLOGY, June 1997, 1354-57

Dr. Quatrell also noted that the article by Dr. Ouzounian²⁴ came to the same conclusion that brachial plexus injury can occur without the application of excessive traction. Ouzounian reached this conclusion based upon his review of several cases. Four of the cases involved babies that sustained a brachial plexus injury but did not confront shoulder dystocia and four other cases involved brachial plexus injury to the posterior arm to which no force was applied. Based upon these case, Ouzounian concluded that uterine pressure and expulsive forces of labor caused the brachial plexus injury.

Dr. Quatrell also testified about an article by Sandmire.²⁵ Sandmire similarly opined that the propulsive forces of the uterus acting against the infant whose shoulder is impacted against the pubic bone is sufficient to cause brachial plexus injury and there are cases where the injury occurred but the baby did not confront shoulder dystocia, such as a case with a rapid second stage of delivery where no traction was applied.

Dr. Quatrell and Dr. Molofsky also discussed an article by Gherman,²⁶ where the author opined that the injury can occur without excessive traction as shown by his review of the cases that revealed a brachial plexus injury can: (1) be present in a newborn who does not confront shoulder dystocia; (2) occur when there is a posterior shoulder dystocia; (3) occur with a

²⁴ Deft Ex. U, Joseph Ouzounian, M.D., et al, Permanent Erb's Palsy, A Traction-Related Injury? 89 No. 1, OBSTETRICS & GYNECOLOGY, Jan. 1997, 139-41.

²⁵ Deft Ex. V, Herbert Sandmire M.D. et al, Erb's Palsy; Concepts of Causation, 95 No. 6, Part 1, OBSTETRICS & GYNECOLOGY, June 2000, 941-42.

²⁶ Deft Ex. O, Robert Gherman, M.D., et al, Brachial Plexus Palsy: An In Utero Injury?, Am. J. OBSTETRICS & GYNECOLOGY, 180, May 1999, 1303-07; Deft Ex. P, Robert Gherman, M.D., et al, Shoulder Dystocia: the Unpreventable Obstetric Emergency with Empiric Management Guideline, 195 Am. J. OBSTETRICS & GYNECOLOGY, 2006, 657-72.

caesarean section delivery; and (4) occur without relationship to the maneuver performed to address a shoulder dystocia.

Each study reviewed historical data as opposed to reports of experiments conducted to prove or disprove a hypothesis. When asked about the soundness of relying on such meta-analyses, Dr. Quatrell testified that this is the only information available because it would be immoral to conduct experiments during the delivery, such as withholding certain techniques simply to verify the cause of a brachial plexus injury. He also rejected the usefulness of simulator studies because they do not include contractions or the application of suprapubic pressure. Thus, conclusions from such simulation studies are of limited utility because they do not address all forces at play.

Dr. Quatrell and Dr. Molofsky also noted that the angle between the neck and the right shoulder can be increased, whether the left ear is moved toward the left shoulder or the right shoulder is depressed down away from the head. (Testimony of Dr. Quatrell and Dr. Molofsky). Thus, the stretch of the nerve can occur from both lateral traction applied to the head and the force of depressing the shoulder down.

Dr. Molofsky also stated that the combination of maternal, uterine, and doctor-applied force all contribute to the injury. (Testimony of Dr. Molofsky). He explained that these are dynamic forces, many of which are acting in concert, that provide the amount of traction needed to cause the nerve to stretch to the point that it tears. Put differently, he explained that the stretch a doctor may apply does not occur in isolation but rather is one of several concurrent forces, namely the forces of contraction pushing the baby down, the expulsive force of a mother pushing, the resisting force of the shoulder pressed against the symphysis pubis, the reorientation of the

muscles and normal forces applied to the head, and that all of these forces are coming from different directions over time and are all stretching the nerve. Given the numerous forces, any one, including the application of a normal amount of traction, may be the additional force that causes the nerve to pass its point of elasticity. He analogized to the amount of force needed to blow up a balloon that is completely deflated as compared to the amount needed to finish filling one that is almost fully inflated. A great deal of force is needed to fill a deflated balloon to the point it will burst, but less is needed to cause an almost fully inflated balloon to burst because of the amount of force already being applied to the walls of the balloon when the last amount of air is added. (Testimony of Dr. Molofsky).

Dr. Molofsky also relied on his clinical experience to support his opinion that the injury can occur without the application of excessive force. In his clinical experience, he has treated brachial plexus injuries sustained by babies who had shoulder dystocia, as well as those who were delivered without significant doctor-performed manipulation.

Treatment

As a result of the injury, plaintiff received a variety of treatments and therapies, including surgery, occupational and physical therapy.²⁷ (Stip. Facts Nos. 38-46). In November 2003, the plaintiff underwent a same day surgical procedure for the purpose of improving the conduction among the nerves and the speed by which the nerves communicate. To this end, surgery was performed to lengthen the tendons, remove scar tissue that developed around the injured nerve, and harvest nerves from her right calf that were grafted to and among C5, C6, and C7 and the

²⁷At trial, the parties stipulated that the reasonable expenses for this past treatment was \$159,151.

scapula. (Pl.'s Ex. 6; Testimony of Dr. Molofsky and Dr. Adler). After this surgery, the plaintiff was placed in a caste for four weeks.²⁸ The caste ensured that the plaintiff's arm remained straight by lifting it perpendicularly from her body with the assistance of a metal rod that protruded from a cast around her waist to the under portion of the caste on her arm. (Pl. Ex. 34A; Testimony of Dr. Adler). The surgery left scars on the back of the plaintiff's right calf and on her neck. (Testimony of Dr. Molofsky and Dr. Adler). Thereafter, between November 2003 and December 2004, the plaintiff received physical therapy to maximize her strength. (Testimony of Dr. Adler).

In December 2004, plaintiff underwent a same day orthopedic procedure using an injection of Botulinum Toxin that lengthened muscles that had contracted. This was performed while the plaintiff was under anesthesia and left a scar under her armpit. (Pl. Ex. 7; Testimony of Dr. Molofsky and Dr. Adler). Thereafter, from December 2004 through April 2005, plaintiff received additional physical, occupational, and hydro therapies.

In April, 2005, plaintiff underwent a third procedure which involved the injection of Botulinum Toxin to address stiffness and to relax the muscles that had contracted. (Pl. Ex. 8; Dr. Molofsky). The injection was given while the plaintiff was under general anesthesia.

Thereafter, and to the present, plaintiff has received physical therapy and occupational therapy through the Head Start Program one day per week and in another session in which she participates one day per week. In addition, her mother performs massages and exercises to help stretch her arm and avoid stiffness. (Testimony of Liliana Araoz). Plaintiff's mother and father

²⁸From at least November 2003, the plaintiff has worn casts or splints at various times to immobilize and/or strengthen the arm, wrist, elbow, or thumb. (Exhibits 84, 85, 86, 90). One splint was used to immobilize the left arm so that she would be forced to use her right hand.

both testified that plaintiff is now able express herself verbally and tells them that her arm “doesn’t work” and that she gets frustrated when she is unable to perform certain tasks.

(Testimony of Ruben Araoz at 26:7-16). They otherwise described plaintiff as a happy child who is active and playful, and that she has no pain, except when the arm is stretched, and that she has no doctor-imposed restrictions on her activities. (Id. at 56:3-24, 59:6-14; Testimony of Lilian Araoz).

Both Dr. Adler and Dr. Molofsky examined the plaintiff and noted the limitations of movement of her right arm and wrist. Dr. Adler testified that plaintiff cannot lift her right arm straight above her head, cannot pull her arm completely behind her back (in part because of the surgical intervention that improved her range of motion to reach in the front), that when she brings her right arm toward her mouth, it forms a clarion-shape and flows away from the body because the biceps cannot stretch, she has limited range of motion at the wrist in that she cannot turn her palm completely up, and when the arm is at rest, it does not fall to its side, but rather falls in front of the front pants pocket. Dr. Adler testified further that plaintiff’s right arm is presently 3 centimeters shorter than her left arm and it expected to be 8-10% shorter than the left arm once she is fully grown. He acknowledged, however, that plaintiff’s right hand has normal function and that she has the ability to grasp objects and dress herself in part by compensating with her left hand to pull up her pants and currently needs assistance buttoning her shirt. He noted that her ability to maintain a fist for a long period or to hold a pencil in her right hand is limited and her balance is effected when she runs long distances.

Dr. Molofsky made similar findings. He found the plaintiff to be healthy in all respects except for the limitation in her ability move her right arm and her limited flexibility and residual

weakness shoulder and arm. He also noted that she had well healed scars. Dr. Molofsky acknowledged that the plaintiff's arms are different in length by approximately 1 cm, her stiffness limits the movement in the wrist and shoulder, and she has a limited ability to rotate her shoulder. He noted that she is unable to get her arm behind her back, but that her finger movement is good. He stated that based upon the degree of her functionality, he found her to suffer a mild residual impairment and, on a scale of one to ten, where one on the scale is "microscopic injury" and ten is "paralysis," the degree of impairment is a three.

As to future therapy, Dr. Adler and Dr. Molofsky both testified that physical and occupational therapy would be warranted, but differed as to the amount and duration. Dr. Adler testified that the plaintiff should receive physical and occupational therapy twice per week until her late adolescence and periodically when she reaches adulthood. (Testimony of Dr. Adler). Dr. Molofsky testified that she should receive such therapy once per week until the age of 10 and then receive check-ups twice or three times per year. (Testimony of Dr. Molofsky). Dr. Adler testified that the cost for each session would be \$125.

As to future surgery, Dr. Adler recommended a tendon transfer surgery to loosen plaintiff's muscle and tendons and that the cost would be between \$25,000 and \$30,000. He did say, however, that the plaintiff's surgeon noted that the need for such surgery would not be known until plaintiff reached the age of six, (Testimony of Dr. Adler), and the record shows that no surgery is currently planned. (Testimony of Ruben Araoz at 60:22-23 and Lilian Araoz). Dr. Molofsky testified that if surgery is needed, it would be a same day procedure involving the use of Botulinum Toxin injections under general anesthesia to loosen muscle contraction. The cost of the procedure would be \$10,000 for the doctor's fee but that this does not include the

hospital's fee. He further testified that it would not involve a full "mod-quad," which he described as a constellation of orthopedic procedures, which include tendon lengthening, removal of scar tissue, and a nerve graft, as these have already been performed on the plaintiff.

(Testimony of Dr. Molofsky).

Procedural History

On May 11, 2006, the plaintiff and her parents filed a Complaint against the United States, Dr. Kyreakakis, and other defendants²⁹ alleging, among other things, that the defendants acted negligently and caused the plaintiff's injuries. By Order dated January 17, 2007, the claims plaintiff's parents filed were voluntarily dismissed. Docket No. 18. Thereafter, Plaintiff's great aunt, Deicy Araoz Fam, was appointed plaintiff's guardian ad litem. Docket No. 25. By Order, dated May 14, 2007, the claims against all defendants, except the United States, were voluntarily dismissed. Docket No. 29. Therefore, trial proceeded only on plaintiff's claim that defendant's employee breached the standard of care and this caused her injury.

CONCLUSIONS OF LAW

Section 2674 of Title 28 of the United States Code states that:

[t]he United States shall be liable, respecting the provision of this title relating to tort claims, in the same manner and to the same extent as a private individual under like circumstances . . . for . . . personal injury . . . caused by the negligent or wrongful act or omission of any employee of the Government while acting within the scope of his . . . employment under circumstances where the United States, if a private person would be liable to the claimant in accordance with the law of the

²⁹ In her Complaint, the plaintiff also lodged claims against North Hudson Community Action Corporation, Palisades Medical Center of New York Presbyterian Healthcare Systems, John Does 1-5, Jane Roes 1-5, and Doe Physician Group, P.C. 1-5.

place where the act or omission occurred.

This case arises under the FTCA because Dr. Kyreakakis was an employee of a federally funded clinic, namely the North Hudson Community Action Corporation, at the time of plaintiff's birth and was acting in the scope of his duties during her delivery. Therefore, the United States is the proper defendant, 28 U.S.C. § 2674; O.S. v. United States, Civ. No. 03-1434, 2005 WL 2838191 (E.D. Mo. Sept. 25, 2005), and this Court has exclusive jurisdiction over this case pursuant to 28 U.S.C. § 1346(b). See Campbell v. United States, Civ. No. 02-2871, 2005 WL 1387652, * 6 (D.N.J. June 10, 2005). Venue is proper in this District. See 28 U.S.C. § 1391(b).

Because the conduct occurred in New Jersey, New Jersey substantive law applies. Campbell, 2005 WL 1387652 at *6; see also Joint Statement of Law, dated December 14, 2007, at 1.³⁰ The plaintiff asserts that Dr. Kyreakakis was negligent in the manner in which he delivered her and that his negligence caused her brachial plexis injury. In short, she contends that he did not meet the acceptable standard of care for responding to shoulder dystocia situations and hence committed malpractice.

To prevail in her malpractice claim, the plaintiff must prove: (1) the applicable standard of care; (2) that the defendant deviated from the standard; and (3) that the deviation proximately caused the injury. Verdicchio v. Ricca, 179 N.J. 1, 23 (2004)(citations omitted); Gardner v.

³⁰In lieu of requiring the parties to submit proposed conclusions of law, the Court asked the parties to provide oral arguments at the close of the evidence. In addition, before trial, the parties submitted their joint position concerning the applicable legal standards. The submission accurately stated the well-settled governing law and enabled the Court to review the evidence offered at trial mindful of the applicable standards and, together with their arguments, eliminated the need for the parties to submit proposed findings of fact and conclusions of law after trial.

Pawliw, 150 N.J. 359, 375 (1997). Here, Dr. Kyreakakis is a specialist and thus, he is required to employ the knowledge and skill that the average specialist in the field possessed and used at the time of plaintiff's delivery. N.J. Model Instruction No. 5.50; Velazquez v. Portadin, 163 N.J. 677, 686 (2000)(stating "[a] physician must act with that degree of care, knowledge, and skill ordinarily possessed and exercised in similar situations by the average member of the profession practicing in the field."). The parties recognize that "medicine is not an exact science and holds physicians responsible for their negligence without making them guarantors of the health of their patients." Joint Statement of Law, at 2 (citing Aiello v. Muhlenberg Regional Medical Center, 159 N.J. 618, 626 (1999) see also Velazquez 163 N.J. at 686; N.J. Model Charge No. 5.50 (stating that "[t]he law recognizes that the practice of medicine is not an exact science."). Of course, "the practice of medicine according to accepted medical standards may not prevent a poor or unanticipated result." N.J. Model Charge at 5.50; Velazquez, 163 N.J. at 686; Joint Statement of Law at 2.

As to the standard of care, plaintiff alleges that, in delivering the plaintiff, Dr. Kyreakakis violated the standard of care by applying excessive traction to her head.³¹ According to the Joint Statement of Law, at 2, "[t]he standard of care regarding shoulder dystocia is essentially undisputed."³² When an obstetrician encounters a shoulder dystocia during delivery, the doctor

³¹The plaintiff withdrew her claim that Dr. Kyreakakis breached the standard of care by failing to have a second doctor present to hold her head when he applied subpubic pressure. In addition, plaintiff conceded that this did not cause her injury.

³²Even if undisputed, however, the standard of care by which Dr. Kyreakakis is judged must be supplied by experts who have the knowledge, training and experience to testify about the applicable standard and express an opinion about the subject. N.J. Model Instructions No. 5.50. Here, the experts provided testimony about the standards of care and expressed opinions about it.

should recognize it and apply gentle downward traction to the baby's head. In addition, placing the mother in the McRoberts position and applying suprapubic pressure are acceptable maneuvers in response to shoulder dystocia and are within the standard of care." Here, the plaintiff bears the burden of proving that Dr. Kyreakakis applied more than gentle traction. The mere occurrence of an injury alone, of course, is insufficient to infer negligence under New Jersey law. Joint Statement of Law at 3 (citing Buckelew v. Grossbard, 87 N.J. 512, 525-526 (1981); Vander Groef v. Great Atlantic & Pacific Tea Co., Inc., 32 N.J. Super. 365, 370, 108 A.2d 472, 474-75 (App. Div. 1982)). Rather, the "[p]laintiff must prove that the breach, if shown, proximately caused the injury. Plaintiff must prove through expert testimony that defendant's breach caused the injury to a reasonable degree of medical probability." Joint Statement of Law, at 4.

The Court has carefully considered all of the evidence in light of the burden of proof that plaintiff bears. Both Dr. Sperling and Dr. Quatrell acknowledged that Dr. Kyreakakis's decision to apply McRoberts and subprapubic pressure were proper responses to the should dystocia and that the application of gentle traction is permitted. The sole issue, therefore, is whether or not the plaintiff has produced sufficient evidence to show that Dr. Kyreakakis applied an excessive amount of force. Although Daniel Araoz suffered an injury, and the Court is sympathetic to her and her family, there is insufficient evidence for the Court to find on this record that it is more likely than not that Dr. Kyreakakis caused her injury by the amount of traction he applied in addressing the shoulder dystocia.

The eyewitness testimony was limited. No nurses testified.³³ Plaintiff's mother's can understandably provided no details about the doctor was doing when he was handling the plaintiff's head after it delivered and the shoulder dystocia was diagnosed. Dr. Kryeakakis testified that he had no memory of the delivery, despite the fact that it involved a baby with a visible impairment that occurs infrequently.³⁴ The plaintiff's father was the only witness who testified about the doctor's actions after the plaintiff's head delivered. Although the plaintiff's father testified that he observed Dr. Kyreakakis move her head up and down three times, and thus, moved the head laterally off the axis, the record does not show when, after the plaintiff's head was delivered, that this occurred and does not prove that excessive force was used.

As to when the doctor engaged in these actions, the evidence shows that the father appears to have made his observations after the plaintiff's mother's legs had been placed in the leg holders and after the plaintiff's head was delivered and before she was fully delivered. There is nothing in the record, however, to show whether or not the observations occurred before or after Dr. Kyreakakis used the McRoberts maneuver and stood to apply subprapubic pressure or if the actions were observed immediately before plaintiff was removed from the birth canal. In fact, the plaintiff's father has no memory of either of any maneuvers having been used or how

³³The parties did not call the nurses and stipulated that the nurses would have provided testimony that was neither helpful or harmful to any party.

³⁴Given the nature of the visible and documented injury at delivery, and the doctor's recollection of having this type of event occur at least five times during his years of practice, the Court would have expected that he would have had some recollection of the event, even though he only interacted with the plaintiff's mother over the course of a twenty-four hour period in April 2003. Indeed, Dr. Quatrell, who has delivered approximately 5000 babies, vividly recalled the problematic shoulder dystocia deliveries in which he participated. (Testimony of Dr. Quatrell). Dr. Kryeakakis' surprising failure to recall, in light of the other evidence, however, is an insufficient reason to find that plaintiff has proven that the doctor caused the injury.

much time passed between the doctor's actions with respect to plaintiff's head and her birth. The silence is relevant because the record demonstrates that plaintiff's shoulder dystocia was resolved after the subprapubic pressure was applied and hence she would have been delivered shortly thereafter. To facilitate the delivery process, the doctor would have moved the baby down and up to remove her from the birth canal. Thus, a "down and up" motion would have been the type of motion expected to be observed. Because it is not clear when after the plaintiff's head was delivered that her father made his observations, the testimony cannot be used to show that the actions plaintiff's father observed reflected improper procedure. If the record had shown that the dystocia had not resolved at the time of the action, the procedure would have dictated that only a downward motion would have been applied to dislodge the shoulder because an upward motion would simply kept the shoulder in the same place. The absence of information on the timing of when these activities were observed, among other things, prevents that Court from finding that the motion that plaintiff's father observed was improper.

As to proof concerning the amount of force, the plaintiff's father candidly testified that he had not observed a delivery before witnessing the birth of the plaintiff and could only say that the doctor seemed to move the plaintiff's head quickly "up and down" and that it seemed hard to him but he could not say how much force was applied. In addition, her father did not testify he observed the doctor stand up while moving her head, lean back away from her mother while holding her head, that the stool moved as he applied traction, that his arms moved up or back when he held her head or that Dr. Kryeakikis put his foot up on the bed to gain additional leverage. The absence of evidence that any of this behavior occurred is consistent with Dr. Kryeakakis's testimony that his normal approach is to sit on a stool with rollers between the

mother's legs and from that position, he would only be able to use the force of his arms, but not his back and that this seated position restricts the amount of force he could actually apply. Thus, her father's observations do not make it more likely than not that the doctor applied excessive force.

The clinical evidence and scientific literature presented in this case also do not show that the injury was more likely than not caused by the doctor's application of excessive force when responding to the shoulder dystocia. As to clinical evidence, Dr. Sperling testified that he never confronted shoulder dystocia when he delivered any baby and hence he could not provide testimony about his actual application of the techniques discussed here and he provided no testimony as to whether or not he had personally delivered any babies who sustained a brachial plexus injury. Dr. Molofsky testified that he treated brachial plexus injuries in patients who did not face shoulder dystocia and hence were not subjected to doctor-applied forces and thus, the injury was caused by other means.

As to the literature, both Dr. Molofsky and Dr. Quatrell discussed various articles that involved the analysis of many births, which included babies who sustained brachial plexus injuries but did not confront shoulder dystocia or any other doctor-applied force and these authors concluded that doctor-applied force is not the only cause of the injury.

The Court has considered plaintiff's criticism that these articles involve an analysis of historical data, which is only as good as the information in the medical records that were reviewed. While there is no doubt that reliance on faulty data leads to faulty conclusions, the plaintiff has not shown that each of the studies should be rejected on this basis. Indeed, plaintiff would have a difficult time doing so based upon the volume of births that these authors

separately reviewed and the independent, yet similar, conclusions that they reached concerning the fact that the brachial plexus can be injured by forces other than doctor-applied force. Moreover, the challenge to the use of meta-analysis ignores the fact that this information could not be obtained on live deliveries in any other way. As Dr. Quatrell aptly explained, there would be a moral dilemma in not reacting to a shoulder dystocia situation through all proper means simply to conduct an experiment to determine the role natural forces of labor play as compared to the forces applied by the doctor assisting at the birth. Dr. Quatrell also noted that simulation studies have deficiencies because they do not replicate the forces of labor, the application of subprapubic pressure, and the mother's pushing during the labor and delivery process. Thus, there is insufficient evidence to reduce the value of metanalysis.

The Court has also considered the studies that the plaintiff presented, including the John Hopkins study of 23,273 deliveries and its finding that the ten babies sustained permanent brachial plexus injury and all faced shoulder dystocia. While this shows a relationship between shoulder dystocia and the incidence of the permanent injury, other studies show that infants who do not confront shoulder dystocia have also sustained brachial plexus injuries and thus were not subject to doctor-applied maneuvers. In short, the evidence shows that the injury can occur in babies who do not confront shoulder dystocia and without the application of traction. Plaintiff failed to present sufficient evidence in this case to reject these studies and cause the Court to embrace her theory that the only force during delivery that can cause the injury that she sustained is doctor-applied force.³⁵

³⁵Several courts have reviewed malpractice claims similar to those the plaintiff asserts here and have found that the medical literature shows that brachial plexus injury can occur “spontaneously,” without shoulder dystocia, and “for unknown reasons. Harrison, 28 F.3d at 296

Moreover, plaintiff's position ignores the findings of these studies and the reality that the birth process involves a baby twisting through the birth canal and the concurrent presence of the forces of labor, the mother's pushing and the fact that the shoulder is stuck while the head is out of the uterus and the rest of the body is in the uterus. As Dr. Molofsky explained, these concurrent forces from different directions all place tension on the nerve and even a normal amount of traction could be enough to cause the nerve to tear. Plaintiff did not present sufficient proof to discount the impact of these forces.

The Court also considered the impeachment evidence offered concerning the thirty-three times that Dr. Kyreakakis confronted shoulder dystocia, (Tr. Vol. II 1:5-21), and that at least five of the babies sustained a brachial plexus injury as demonstrated by the presence of a flaccid arm at the time of delivery. This evidence was offered to impeach his credibility concerning his description and application of his technique. Although no party presented a statistician, Dr. Quatrell testified that 8-25% of the shoulder dystocia births include a brachial plexus injury. He further testified that a doctor who confronts thirty-three shoulder dystocia deliveries and reports five babies having a flaccid arm would have the same proportion of injury as the overall statistic. Thus, he testified that the frequency of flaccid arms alone, together with the fact that each

n.2 (noting that the injury can happen spontaneously and without shoulder dystocia); Salvant v. State, 935 So. 2d 646, 659 (La. 2006)(noting that the literature shows that brachial plexus injury can occur without shoulder dystocia and "for unknown reasons."); cf. Rieker, 96 P.2d 833, 836-37 (Or. App. 2004) (noting that information from articles by Ouzounian, Gherman, and Gonik were presented to the jury to show that not all injuries are doctor-applied traction related); Knapp, 2003 WL 21688096, *3-7 (Ohio App. 2003)(noting that Dr. Adler testified for the plaintiff, acknowledged that the injury can occur in the absence of excessive traction, and was confronted with three articles, which he rejected as being based upon speculation, but which the Court observed "document[ed] permanent brachial plexus injuries in the absence of shoulder dystocia and independent of traction.").

delivery must be evaluated separately (presumably because all babies and all deliveries are different), is insufficient for him to opine that there was an improper application of the technique in this case.

Thus, based upon the evidence presented, the plaintiff has not proven that Dr. Kyreakakis is more likely than not the cause of her injury. Because liability has not been proven, there is no need to address the issue of damages. See Campbell, 2005 WL 1387652 at 9.

CONCLUSION

For all of these reasons, a judgment will be issued in favor of the defendant.

s/Patty Shwartz

PATTY SHWARTZ

United States Magistrate Judge